Nova Scotia Building Advisory Committee

Response to the Bartlett Report Review of the Sprinkler Requirements under the Nova Scotia Building Code Regulations and Input from Interested Stakeholders

January 2004

Background

The Red Tape Reduction Task Force recommended that the government review the sprinkler requirements made under the Nova Scotia Building Code Regulations. In response, the minister responsible for the Building Code Act requested that the Nova Scotia Building Advisory Committee initiate a review.

As a first step in the review process, the committee asked the province to hire a consultant to engage the public in the review and to report its findings to the committee. In the summer of 2001, R.J. Bartlett Engineering Limited, specialists in fire protection engineering, was hired.

The consultant mailed questionnaires to specific stakeholder groups, such as fire departments, enforcement officials, construction industry stakeholders, and insurers. It also created a website to elicit broader public input. It compiled its findings into an interim report made on November 15, 2001, and presented the results to a public stakeholder meeting on November 28, 2001.

Following release of the interim report, the consultant made a more detailed analysis and presented its final report to the Nova Scotia Building Advisory Committee on April 2, 2002. The committee made this final report available to all those interested in the consultant's recommendations.

Bartlett Report Recommendations

The Bartlett Report made a primary recommendation to adopt the National Building Code (NBC) requirements for sprinkler systems and delete amendments contained in the Nova Scotia Building Code Regulations (NSBCR).

If this primary recommendation were not followed, the Bartlett Report made a second recommendation to modify the Nova Scotia Building Code Regulations to

1. exclude basements from the definition of storey
2. exclude low hazard industrial buildings up to certain sizes from sprinkler requirements
3. exempt buildings required to be sprinklered by the NSBCR, but not by the NBC, from requiring a fire detection and alarm system
4. waive areas of refuge requirements from sprinkler buildings as per the NBC

Response to Bartlett Report

Overall, and not unexpectedly, the committee received strong opinions both positive and negative on the Bartlett recommendations. The committee agreed to meet with a number of stakeholders who expressed interest in making additional presentations on the consultant's recommendations. The committee heard from the Canadian Automatic Sprinkler Association, the Halifax Regional Fire and Emergency Service, and the Nova Scotia Building Officials Association.

Committee's Review

Subsequently the committee conducted a further in-depth review of the current sprinkler requirements to determine its recommendations. It considered the following topics:

Group C Residential Occupancies

The committee felt there was sufficient reason to maintain stringent requirements for residential construction. The evidence indicates that there are more residential fires—and more serious consequences in residential fires—than all other building types. The committee felt that there was some discrepancy in the current requirements. For example, a 4-unit apartment building on four levels is required to have a sprinkler system because it has four stories. A much larger 12-unit building with only three stories is not required to have a sprinkler system. We are proposing changes that would require these larger buildings to have sprinkler systems installed, but would exempt some smaller buildings currently captured by the regulation.

Group F 2 and F3 Industrial Occupancies

The committee heard strong support for moving to the NBC for sprinkler requirements for medium- and low-hazard industrial buildings.

Group D Business and Personal Services Occupancies

From the Nova Scotia Building Officials Association we heard that the requirements for Group D Business and Personal Services Occupancies, such as banks, offices, and similar types of establishments, should be treated somewhat more stringently than is required under the NBC. Buildings of this type with more than three stories would be required to have sprinkler systems installed.

Definitions and Administrative Requirements

The committee heard little support for maintaining differing definitions from the NBC. Overall the NBC and the NSBCR have very similar requirements for when sprinkler systems must be installed. In most instances we found no need to maintain the differing requirements of the NSBCR. By moving to the NBC requirements, we expect better compliance, reduced confusion, and fewer inconsistencies. Moving to the NBC would also eliminate redundant requirements. The committee felt that adopting NBC definitions would help place Nova Scotia construction requirements on an equal footing with other provincial and territorial jurisdictions.

In addition, the committee found that there was no need to continue a separate set of administrative requirements for additions to existing buildings. The NBC already addresses these circumstances more fully. We propose to eliminate the exemption for non-designated buildings.

Smoke Control Measures

The committee struck a task group of its members to compare the smoke control measures as they relate to areas of refuge provisions of the provincial regulation to those of the National Building Code. We also sought the opinion of the consultant on this matter.

Areas of refuge requirements contained in the NS Building Code Regulations have not been updated to take into account subsequent versions of the National Building Code for smoke control measures. Smoke control measures were always intended to protect all persons, not only those with disabilities. The NBC's smoke control measures reflect the consensus opinion of national experts in the field of fire and life safety. The vast majority of those we heard from supported changing to the NBC definitions.

Comparison of NBC and NSBCR

The committee found that in some areas the National Building Code of Canada 1995 exceeds the requirements of the Nova Scotia Building Code Regulations 2001 sprinkler requirements, while in other occupancies the reverse is true. The following chart briefly compares the two and summarizes how the committee is proposing to deal with the differences.

Occupancy Classification	Example	Direction committee is moving in
Group A1	theatres	adopt NBC because there are only minor differences
Group A2	restaurants	adopt NBC because there are only minor differences
Group A3	arenas	adopt NBC because the NBC takes into account exiting capacities and combustibility of construction, etc.
Group A4	open air grandstands	adopt NBC - NSBCR does not address
Group B1	prisons	adopt NBC - which is more stringent
Group B2	hospitals	adopt NBC - which is more stringent
Group C	residential	revise NSBCR to capture more of the larger buildings but exempt smaller buildings, and exempt all single dwelling units no matter their size
Group D	offices	modify NBC for less than 4 storeys
Group E	stores	adopt NBC because there are only minor differences
Group F1	high hazard	adopt NBC which is more stringent
Group F2	medium hazard industrial	adopt NBC as NSBCR does not address
Group F3	low hazard industrial	adopt NBC as NSBCR does not address

Committee's Recommendations

Technical Requirements

The position of the NSBAC is to adopt the NBC 2005 Code in its entirety, with two amendments to the limiting areas when sprinkler systems are required for Group C Residential Occupancies and Group D Business and Personal Services Occupancies.

Keep in mind that adopting the National Building Code includes adopting its definitions of "storey," "first storey," "basement," and "building height." For example, the NSBCR says, "In every building containing two storeys and having a building area greater than xxx m^2" the basement is counted as one storey. Under the NBC the same requirement would read, "A building with a building area not more than xxx m^2, if 1 storey in building height." This excludes the basement. Therefore the committee has adjusted the limited areas to account for the exclusion of the basement using the NBC terminology in the Group C requirements as noted below.

The **first proposed amendment** is to 3.2.2.45. Group C, up to Four Stories, Sprinklered. It reads as follows:

3.2.2.45. Group C, up to 3 Storeys, Sprinklered

1) A building classified as Group C is permitted to conform to Sentence (2) provided
a) except as permitted by Sentences 3.2.2.7. (1) and 3.2.2.18. (2), the building is sprinklered throughout,
b) it is not more than 3 storeys in building height, and
c) it has a building area not more than
    i) 600 m^2 if 1 storey in building height,
    ii) 400 m^2 if 2 storeys in building height,
    iii) 300 m^2 if 3 storeys in building height,
    iv) if more than 3 storeys in building height

The impact of this change would be an increased or more stringent requirement for sprinkler system installation in most residential occupancies, but a decrease requirement for very small buildings previously captured.

The committee makes this recommendation because we received general agreement among all stakeholders who responded that Group C Residential Occupancies represent the highest risk for fire ignition, the highest possibility for injuries and deaths as a result of a fire, and the greatest property losses.

The **second proposed amendment** is to 3.2.2.50. Group D, up to 6 Storeys.

3.2.2.50 Group D, up to 3 Storeys

1) A building classified as Group D is permitted to conform to Sentence (2) provided
a) it is not more than 3 storeys in building height, and
b) it has a building area not more than the value in Table 3.2.2.50.

Table 3.2.2.50.
Maximum Building Area, Group D, up to 6 Storeys

No. of Storeys under NBC definition	Maximum Area, m^2		
	Facing 1 Street	Facing 2 Streets	Facing 3 Streets
1	not limited	not limited	not limited
2	7 200	not limited	not limited
3	4 800	6 000	7 200

Concern was expressed that many of the fire services in the province may be unable to successfully address fire in these very large premises. This is not to criticize the fire services, but to recognize that equipment, response times, and smaller crew sizes may be unable to cope with emergencies in very large premises.

Administrative Requirements

The Nova Scotia Building Advisory Committee also reviewed administrative and application requirements of the regulations and recommends the following changes.

Provision	Short Title	Summary of Recommendations
3.2.2.84. (1)	Conflicts	delete, as there would be no potential conflicts remaining
3.2.2.84. (2)	Alternatives	delete as alternate solutions are enabled under 2.5 of the NBC 1995 currently in force and will be continued in the 2005 edition of the NBC
3.2.2.84. (3)	Exemption	delete as alternate solutions are enabled under 2.5 of the NBC 1995 currently in force and will be continued in the 2005 edition of the NBC
1.3.1.3.	definition of "Designated Building"	delete as the NBC better addresses additions to existing buildings

Sentence 3.2.2.84. (1) Conflicts in Sprinkler Regulations addresses conflicts between the requirements of the National Building Code of Canada and the Nova Scotia Building Code Regulation. As these would be entirely integrated, there would no longer be any potentially conflicting requirements to deal with.

Sentence 3.2.2.84. (2). Alternatives addresses alternatives to the requirements of the regulations pertaining to sprinkler systems. This matter is more fully addressed by the National Building Code of Canada under 2.5 Equivalents as adopted by the regulations and, therefore, this sentence is redundant. The Nova Scotia Building Advisory Committee recognizes that the recent adoption of the Fire Safety Act, which adopts the National Fire Code, and appointment of municipal fire inspectors throughout the province will enable ongoing consultation between the building and fire officials. This consultation may result in alternative measures being accepted.

Sentence 3.2.2.84. (3) Exemption and **Article 1.3.1.3. Specific Definitions** addresses designated and non-designated buildings. The committee intends to delete these references in future editions of the Nova Scotia Building Code Regulations. This would place all buildings constructed in the province on an equal footing. Currently, designated buildings are able to expand in their size beyond what would normally be required before sprinkler requirements come into force. Most municipalities have found this exception very difficult to manage. It requires that they keep complete and accurate records on every designated building.

Buildings with legally issued occupancy permits will not be penalized. They remain exempt from sprinkler requirements for as long as they remain at their current size. However, should they be enlarged, they will be treated in the same way as non-designated buildings if this recommendation is adopted.

The balance of the 3.2.2.84. including sentences 3.2.2.84. (4) to 3.2.2.84. (9) would become redundant and needs to be deleted. As previously noted, the National Building Code addresses each of the occupancy classifications more thoroughly.

Integration with the National Building Code of Canada 2005

The Province of Nova Scotia, through an existing Memorandum of Understanding with the National Research Council of Canada, is committed to adopting and using the National Building Code. It is beneficial to public safety and to the design and construction industry to have uniform minimum health, life safety, and fire standards that adhere to the national standards system wherever possible.

The recommendations put forward by the Nova Scotia Building Advisory Committee will meet the needs of the province for the foreseeable future and will eliminate duplication created by regulations that were confusing, redundant, and in some instances conflicting or contradictory. Also, if these recommendations are adopted as proposed, the province should be able to publish the complete Building Code as adopted into law in Nova Scotia as one document.

Next Steps

The Nova Scotia Building Advisory Committee is issuing this response for review and further public comment. Based on this paper, the committee will propose amendments for adoption with the next issuance of the National Building Code of Canada expected in the spring of 2005. Over the next year the committee will finalize draft amendments correlated to the proposed text National Building Code 2005.

The Building Code Act requires that the final amendments be vetted by the public before they come into force. It is anticipated that these amendments will go for public consultation together with the proposed adoption of the 2005 National Building Code of Canada in the spring of 2005.